

WHAT IS CLAIMED IS:

1. An isolated antibody specific for a protein or glycoprotein comprising the amino acid sequence of SEQ ID NO: 1.

2. The antibody of Claim 1, wherein the antibody is a monoclonal antibody.

3. An isolated antibody specific for a naturally occurring receptor-type phosphotyrosine phosphatase κ protein or glycoprotein encoded by (a) a nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO: 3; or (b) a nucleic acid molecule comprising a nucleotide sequence which hybridizes to the complement of a nucleotide sequence that encodes the polypeptide of SEQ ID NO: 1 under hybridization conditions at least as stringent as the following: hybridization in 50% formamide, 5x SSC, 50mM NaH_2PO_4 , pH 6.8, 0.5% SDS, 0.1 mg/ml sonicated salmon sperm DNA and 5x Denhart solution at 42° C overnight; washing with 2x SSC, 0.1% SDS at 45° C; and washing with 0.2x SSC, 0.1% SDS at 45° C.

4. The antibody of Claim 3, wherein the antibody is a monoclonal antibody.

5. An isolated antibody specific for a protein or glycoprotein comprising the full length amino acid sequence of SEQ ID NO: 2.

6. The antibody of Claim 5, wherein the antibody is a monoclonal antibody.

7. An isolated antibody specific for a receptor-type tyrosine phosphatase κ protein or glycoprotein encoded by (a) a nucleic acid molecule comprising the nucleotide sequence set forth in SEQ ID NO: 4; or (b) a nucleic acid molecule comprising a nucleotide sequence which hybridizes to the complement of a nucleotide that encodes the polypeptide of SEQ ID NO: 2 under hybridization conditions at least as stringent as the following: hybridization in 50% formamide, 5x SSC, 50mM NaH_2PO_4 , pH 6.8, 0.5% SDS, 0.1 mg/ml sonicated salmon sperm DNA and 5x Denhart solution at 42° C overnight; washing with 2x SSC, 0.1% SDS at 45° C; and washing with 0.2x SSC, 0.1% SDS at 45° C.

8. The antibody of Claim 7, wherein the antibody is a monoclonal antibody.

9. An isolated antibody specific for a protein comprising at least one of the following domains in SEQ ID NO: 1: the signal peptide domain, the MAM domain, the Ig-like domain, one of the four FN-type III like domains, the phosphatase I domain, the phosphatase II domain, the extracellular domain, the transmembrane domain or the intracellular domain.

10. The antibody of Claim 9, wherein the antibody is a monoclonal antibody.

11. An isolated antibody specific for a protein comprising at least one of the following domains in SEQ ID NO:2: the signal peptide domain, the MAM domain, the Ig-like domain, one of the four FN-type III like domains, the phosphatase I domain, the phosphatase II domain, the extracellular domain, the transmembrane domain or the intracellular domain.

12. The antibody of Claim 11, wherein the antibody is a monoclonal antibody.